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# Superfund Chemical Data Matrix (SCDM) Query

Last Update: December 2018

Report URL: <https://www.epa.gov/superfund/superfund%2Dchemical%2Ddata%2Dmatrix%2Dscdm%2Dquery?substanceAuto=&c=007440%2D47%2D3&c=018540%2D29%2D9&c=007440%2D50%2D8&c=007440%2D02%2D0&c=007440%2D66%2D6&f=f1&b=b1&d=d1&d=d2&d=d3>

## **Substance: Chromium [CASRN 007440-47-3]**

Query Accessed: 8/16/2019

**Factor Values: Ground Water Pathway**

Parameter	Value
Toxicity	10000
Water Solubility	--
Distribution Coefficient	8.5E+02
Geometric Mean Solubility	1.6E+06
Mobility: Liquid, Karst	1.0E+00
Mobility: Liquid, Non-Karst	1.0E-02
Mobility: Non-Liquid, Karst	1.0E+00
Mobility: Non-Liquid, Non-Karst	1.0E-02

## **Benchmarks: Ground Water Pathway**

### **Chromium [CASRN 007440-47-3]**

Parameter	Value	Unit
MCL	1E-01	mg/L
MCLG	1E-01	mg/L
Cancer Risk	5.0E-05	mg/L
Non-Cancer Risk	6E-02	mg/L

**Data Elements: Toxicity**  
**Chromium [CASRN 007440-47-3]**

Parameter	Value	Unit	Source
Oral RfD	3.0E-03	mg/kg/day	IRIS
RfC	8.0E-06	mg/m <sup>3</sup>	IRIS
Oral Slope Factor	5.0E-01	(mg/kg/day) <sup>-1</sup>	CALEPA
Oral Slope Factor WOE	B		CALEPA
IUR	1.2E-02	( $\mu$ g/m <sup>3</sup> ) <sup>-1</sup>	IRIS
IUR WOE	A		IRIS
Oral ED <sub>10</sub>	--	--	--
Oral ED <sub>10</sub> WOE	--	--	--
Inhalation ED <sub>10</sub>	2.5E-03	mg/kg/day	SPHEM
Inhalation ED <sub>10</sub> WOE	A		SPHEM
Oral LD <sub>50</sub>	--	--	--
Dermal LD <sub>50</sub>	--	--	--
Gas Inhalation LC <sub>50</sub>	--	--	--
Dust Inhalation LC <sub>50</sub>	--	--	--
Acute, Freshwater CMC	--	--	--
Acute, Saltwater CMC	--	--	--
Chronic, Freshwater CCC	--	--	--
Chronic, Saltwater CCC	--	--	--
Freshwater Ecological LC <sub>50</sub>	2.2E+01	$\mu$ g/L	ECOTOX
Saltwater Ecological LC <sub>50</sub>	2.2E+02	$\mu$ g/L	ECOTOX

**Data Elements: Persistence**  
**Chromium [CASRN 007440-47-3]**

<b>LAKE HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>RIVER HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>OTHER</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Log K <sub>ow</sub>	2.3E-01		PHYSPROP

**Data Elements: Mobility/Migration Potential**  
**Chromium [CASRN 007440-47-3]**

<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Vapor Pressure	4.2E-09	Torr	PHYSPROP
Henry's Law Constant	2.4E-02	atm-m <sup>3</sup> /mol	PHYSPROP
Water Solubility	--	--	--
Distribution Coefficient	8.5E+02	mL/g	BAES
Geometric Mean Solubility	1.6E+06	mg/L	CRC
K <sub>oc</sub>	--	--	--

**Substance: Chromium(VI)**  
**[CASRN 018540-29-9]**

Query Accessed: 8/16/2019

**Factor Values: Ground Water Pathway**  
**Chromium(VI) [CASRN 018540-29-9]**

Parameter	Value
Toxicity	10000
Water Solubility	--
Distribution Coefficient	1.9E+01
Geometric Mean Solubility	1.6E+06
Mobility: Liquid, Karst	1.0E+00
Mobility: Liquid, Non-Karst	1.0E-02
Mobility: Non-Liquid, Karst	1.0E+00
Mobility: Non-Liquid, Non-Karst	1.0E-02

**Benchmarks: Ground Water Pathway**  
**Chromium(VI) [CASRN 018540-29-9]**

Parameter	Value	Unit
MCL	1E-01	mg/L
MCLG	1E-01	mg/L
Cancer Risk	5.0E-05	mg/L
Non-Cancer Risk	6E-02	mg/L

**Data Elements: Toxicity**  
**Chromium(VI) | CASRN 018540-29-9]**

Parameter	Value	Unit	Source
Oral RfD	3.0E-03	mg/kg/day	IRIS
RfC	8.0E-06	mg/m <sup>3</sup>	IRIS
Oral Slope Factor	5.0E-01	(mg/kg/day) <sup>-1</sup>	CALEPA
Oral Slope Factor WOE	B		CALEPA
IUR	1.2E-02	( $\mu$ g/m <sup>3</sup> ) <sup>-1</sup>	IRIS
IUR WOE	A		IRIS
Oral ED <sub>10</sub>	--	--	--
Oral ED <sub>10</sub> WOE	--	--	--
Inhalation ED <sub>10</sub>	2.5E-03	mg/kg/day	SPHEM
Inhalation ED <sub>10</sub> WOE	A		SPHEM
Oral LD <sub>50</sub>	--	--	--
Dermal LD <sub>50</sub>	--	--	--
Gas Inhalation LC <sub>50</sub>	--	--	--
Dust Inhalation LC <sub>50</sub>	--	--	--
Acute, Freshwater CMC	1.6E+01	$\mu$ g/L	NRWQC
Acute, Saltwater CMC	1.1E+03	$\mu$ g/L	NRWQC
Chronic, Freshwater CCC	1.1E+01	$\mu$ g/L	NRWQC
Chronic, Saltwater CCC	5.0E+01	$\mu$ g/L	NRWQC
Freshwater Ecological LC <sub>50</sub>	--	--	--
Saltwater Ecological LC <sub>50</sub>	--	--	--

<b>LAKE HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>RIVER HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>OTHER</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Log K <sub>ow</sub>	--	--	--

**Data Elements: Mobility/Migration Potential**  
**Chromium(VI) | CASRN 018540-29-9]**

<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Vapor Pressure	--	--	--
Henry's Law Constant	--	--	--
Water Solubility	--	--	--
Distribution Coefficient	1.9E+01	mL/g	SSG
Geometric Mean Solubility	1.6E+06	mg/L	CRC
K <sub>oc</sub>	--	--	--

**Substance: Copper**  
**[CASRN 007440-50-8]**

Query Accessed: 8/16/2019

**Factor Values: Ground Water Pathway**  
**Copper [CASRN 007440-50-8]**

Parameter	Value
Toxicity	100
Water Solubility	--
Distribution Coefficient	3.5E+01
Geometric Mean Solubility	3.3E+04
Mobility: Liquid, Karst	1.0E+00
Mobility: Liquid, Non-Karst	1.0E-02
Mobility: Non-Liquid, Karst	1.0E+00
Mobility: Non-Liquid, Non-Karst	1.0E-02

**Benchmarks: Ground Water Pathway**  
**Copper [CASRN 007440-50-8]**

Parameter	Value	Unit
MCL	1.3E+00	mg/L
MCLG	1.3E+00	mg/L
Cancer Risk	--	--
Non-Cancer Risk	8E-01	mg/L

**Data Elements: Toxicity**  
**Copper [CASRN 007440-50-8]**

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Parameter	Value	Unit	Source
Oral RfD	4.0E-02	mg/kg/day	HEAST
RfC	--	--	--
Oral Slope Factor	--	--	--
Oral Slope Factor WOE	D		IRIS
IUR	--	--	--
IUR WOE	D		IRIS
Oral ED <sub>10</sub>	--	--	--
Oral ED <sub>10</sub> WOE	--	--	--
Inhalation ED <sub>10</sub>	--	--	--
Inhalation ED <sub>10</sub> WOE	--	--	--
Oral LD <sub>50</sub>	4.1E+02	mg/kg	RTECS
Dermal LD <sub>50</sub>	--	--	--
Gas Inhalation LC <sub>50</sub>	--	--	--
Dust Inhalation LC <sub>50</sub>	--	--	--
Acute, Freshwater CMC	2.3E+00	µg/L	NRWQC
Acute, Saltwater CMC	4.8E+00	µg/L	NRWQC
Chronic, Freshwater CCC	1.4E+00	µg/L	NRWQC
Chronic, Saltwater CCC	3.1E+00	µg/L	NRWQC
Freshwater Ecological LC <sub>50</sub>	1.6E-01	µg/L	ECOTOX
Saltwater Ecological LC <sub>50</sub>	5.6E-02	µg/L	ECOTOX

<b>LAKE HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>RIVER HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>OTHER</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Log K <sub>ow</sub>	-5.7E-01		PHYSPROP

**Data Elements: Mobility/Migration Potential**  
**Copper [CASRN 007440-50-8]**

<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Vapor Pressure	4.2E-09	Torr	PHYSPROP
Henry's Law Constant	2.4E-02	atm-m <sup>3</sup> /mol	PHYSPROP
Water Solubility	--	--	--
Distribution Coefficient	3.5E+01	mL/g	BAES
Geometric Mean Solubility	3.3E+04	mg/L	CRC
K <sub>oc</sub>	--	--	--

**Substance: Nickel**  
**[CASRN 007440-02-0]**

Query Accessed: 8/16/2019

**Factor Values: Ground Water Pathway**  
**Nickel [CASRN 007440-02-0]**

Parameter	Value
Toxicity	10000
Water Solubility	--
Distribution Coefficient	6.5E+01
Geometric Mean Solubility	1.9E+05
Mobility: Liquid, Karst	1.0E+00
Mobility: Liquid, Non-Karst	1.0E-02
Mobility: Non-Liquid, Karst	1.0E+00
Mobility: Non-Liquid, Non-Karst	1.0E-02

**Benchmarks: Ground Water Pathway**  
**Nickel [CASRN 007440-02-0]**

Parameter	Value	Unit
MCL	--	--
MCLG	--	--
Cancer Risk	--	--
Non-Cancer Risk	4E-01	mg/L

**Data Elements: Toxicity**  
**Nickel [CASRN 007440-02-0]**

Parameter	Value	Unit	Source
Oral RfD	2.0E-02	mg/kg/day	IRIS
RfC	9.0E-05	mg/m <sup>3</sup>	ATSDR
Oral Slope Factor	--	--	--
Oral Slope Factor WOE	A		IRIS
IUR	4.8E-04	(μg/m <sup>3</sup> ) <sup>-1</sup>	CALEPA
IUR WOE	A		IRIS
Oral ED <sub>10</sub>	--	--	--
Oral ED <sub>10</sub> WOE	--	--	--
Inhalation ED <sub>10</sub>	1.0E-01	mg/kg/day	SPHEM
Inhalation ED <sub>10</sub> WOE	A		SPHEM
Oral LD <sub>50</sub>	2.5E+02	mg/kg	RTECS
Dermal LD <sub>50</sub>	--	--	--
Gas Inhalation LC <sub>50</sub>	--	--	--
Dust Inhalation LC <sub>50</sub>	--	--	--
Acute, Freshwater CMC	4.7E+02	μg/L	NRWQC
Acute, Saltwater CMC	7.4E+01	μg/L	NRWQC
Chronic, Freshwater CCC	5.2E+01	μg/L	NRWQC
Chronic, Saltwater CCC	8.2E+00	μg/L	NRWQC
Freshwater Ecological LC <sub>50</sub>	5.0E-02	μg/L	ECOTOX
Saltwater Ecological LC <sub>50</sub>	1.0E+02	μg/L	ECOTOX

<b>LAKE HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>RIVER HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>OTHER</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Log K <sub>ow</sub>	-5.7E-01		PHYSPROP

**Data Elements: Mobility/Migration Potential**  
**Nickel [CASRN 007440-02-0]**

<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Vapor Pressure	4.2E-09	Torr	PHYSPROP
Henry's Law Constant	2.4E-02	atm-m <sup>3</sup> /mol	PHYSPROP
Water Solubility	--	--	--
Distribution Coefficient	6.5E+01	mL/g	SSG
Geometric Mean Solubility	1.9E+05	mg/L	CRC
K <sub>oc</sub>	--	--	--

**Substance: Zinc**  
**[CASRN 007440-66-6]**

Query Accessed: 8/16/2019

**Factor Values: Ground Water Pathway**  
**Zinc [CASRN 007440-66-6]**

Parameter	Value
Toxicity	10
Water Solubility	--
Distribution Coefficient	6.2E+01
Geometric Mean Solubility	1.1E+04
Mobility: Liquid, Karst	1.0E+00
Mobility: Liquid, Non-Karst	1.0E-02
Mobility: Non-Liquid, Karst	1.0E+00
Mobility: Non-Liquid, Non-Karst	1.0E-02

**Benchmarks: Ground Water Pathway**  
**Zinc [CASRN 007440-66-6]**

Parameter	Value	Unit
MCL	--	--
MCLG	--	--
Cancer Risk	--	--
Non-Cancer Risk	6E+00	mg/L

**Data Elements: Toxicity**  
**Zinc [CASRN 007440-66-6]**

Parameter	Value	Unit	Source
Oral RfD	3.0E-01	mg/kg/day	IRIS
RfC	--	--	--
Oral Slope Factor	--	--	--
Oral Slope Factor WOE	D		IRIS
IUR	--	--	--
IUR WOE	D		IRIS
Oral ED <sub>10</sub>	--	--	--
Oral ED <sub>10</sub> WOE	--	--	--
Inhalation ED <sub>10</sub>	--	--	--
Inhalation ED <sub>10</sub> WOE	--	--	--
Oral LD <sub>50</sub>	--	--	--
Dermal LD <sub>50</sub>	--	--	--
Gas Inhalation LC <sub>50</sub>	--	--	--
Dust Inhalation LC <sub>50</sub>	--	--	--
Acute, Freshwater CMC	1.2E+02	µg/L	NRWQC
Acute, Saltwater CMC	9.0E+01	µg/L	NRWQC
Chronic, Freshwater CCC	1.2E+02	µg/L	NRWQC
Chronic, Saltwater CCC	8.1E+01	µg/L	NRWQC
Freshwater Ecological LC <sub>50</sub>	2.0E+01	µg/L	ECOTOX
Saltwater Ecological LC <sub>50</sub>	1.0E+01	µg/L	ECOTOX

<b>LAKE HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>RIVER HALF-LIVES</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Hydrolysis	--	--	--
Volatility	--	--	--
Final Photolysis	--	--	--
Direct Photolysis	--	--	--
Indirect Photolysis	--	--	--
Unspecified Photolysis	--	--	--
Biodegradation	--	--	--
Radioactive	--	--	--
<b>OTHER</b>			
<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Log K <sub>ow</sub>	-4.7E-01		PHYSPROP

**Data Elements: Mobility/Migration Potential**  
**Zinc [CASRN 007440-66-6]**

<b>Parameter</b>	<b>Value</b>	<b>Unit</b>	<b>Source</b>
Vapor Pressure	3.8E-09	Torr	PHYSPROP
Henry's Law Constant	2.4E-02	atm-m <sup>3</sup> /mol	PHYSPROP
Water Solubility	--	--	--
Distribution Coefficient	6.2E+01	mL/g	SSG
Geometric Mean Solubility	1.1E+04	mg/L	CRC
K <sub>oc</sub>	--	--	--

